

**Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, D.C. 20554**

In the Matter of

Expanding the Economic and Innovation  
Opportunities of Spectrum Through Incentive  
Auctions

ET Docket No. 12-268

**Via the ECFS**

**COMMENTS OF IEEE 802**

1. IEEE 802<sup>1</sup> respectfully submits its Comments in the above-captioned Proceeding<sup>2</sup>.
2. IEEE 802, as a leading consensus-based industry standards body, produces standards for wireless networking devices, including wireless local area networks (“WLANs”), wireless personal area networks (“WPANs”), wireless metropolitan area networks (“Wireless MANs”), and wireless regional area networks (“WRANs”). Included in our standards development activity is an emphasis on coexistence, which is the focus of our Wireless Coexistence working group. We appreciate the opportunity to provide these comments to the FCC.

**INTRODUCTION**

3. On October 2, 2012 the Commission issued a Notice of Proposed Rulemaking, under ET Docket 12-268, in which the Commission seeks comments on the proposed incentive auction of TV broadcast spectrum.
4. IEEE 802 has already published standards and is in the process of completing additional amendments to standards which support operation in the TV broadcast band under the Commission’s Part 15 rules for operation of TV band devices (“TVBDs”). These standards and amendments support applications which include broadband wireless access in rural,

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<sup>1</sup> The IEEE Local and Metropolitan Area Networks Standards Committee (“IEEE 802” or the “LMSC”).

<sup>2</sup> This document represents the views of IEEE 802. It does not necessarily represent the views of the IEEE as a whole or the IEEE Standards Association as a whole.

- remote and other areas, wireless local area network operations, including home, business and cellular data offload applications, and machine to machine (“M2M”) operations, including smart grid and smart metering applications.
5. IEEE 802 agrees with the FCC that the spectrum should not remain unused if there are radio technologies that can make use of the spectrum while preserving the established regulatory framework for the use of the TVWS frequency bands.
  6. Unlicensed spectrum use improves the diversity of communication infrastructure which is essential at times of emergency to aid disaster recovery. This has been amply shown as a result of recent national disasters and emergencies in many countries including the United States.
  7. IEEE 802 endorses the FCC's viewpoints as proposed in FCC-12-118, Paragraph 233 (hereinafter “Paragraph” followed by the paragraph number), supporting unlicensed operation and deployments in remote and rural areas where substantial TVWS exists. IEEE 802 supports the use of innovative solutions ranging from Local Area Networks to Regional Area Networks.
  8. IEEE 802 supports the establishment of a regulatory framework as suggested in Paragraphs 228, 230 and 233 permitting the use of unlicensed technologies and opportunistic use of licensed spectrum by cognitive unlicensed devices in the TV Bands. We agree with the FCC as stated in Paragraph 228 and 230 that opening up TVWS spectrum to cognitive radio sharing technology can spur innovation to address meaningful communications needs of consumers, businesses and governments.
  9. In these comments, IEEE 802 will focus primarily on aspects of the NPRM that impact unlicensed operations in the reorganized spectrum envisioned in this proceeding. We have no comment on the particulars of the auctions and the related issues. IEEE 802 has previously filed ex parte comments on the general utility of the TV band in document 04-186 05-10-2012 IEEE 802 LMSC 7021917314.pdf.

**IEEE 802 SUPPORTS THE FCC’S GOAL TO CREATE REGULATORY CERTAINTY  
FOR UNLICENSED SPECTRUM**

10. IEEE 802 commends the FCC in its goal to create certainty of spectrum for unlicensed use on a nationwide basis as stated in Paragraph 239. In addition, IEEE 802 supports the FCC’s goal to enable more efficient use of spectrum in numerous innovative ways as suggested in Paragraph 2.

11. Although a substantial amount of this spectrum is currently available in rural and remote areas, there is no regulatory certainty of unlicensed spectrum availability in urban markets, which prevents the ability to achieve nationwide coverage.
12. IEEE 802 has created standards from Personal Area Networks to Local Area Networks and Regional Area Networks that allow the use of any part of the TV Band spectrum. Hence, IEEE 802 supports allowing Part 15 White Space Devices to operate in all the TV Band frequencies.

### **IEEE 802 SUPPORTS ALLOWING PART 15 WHITESPACE DEVICES TO OPERATE ON CH 37**

13. Channel 37 should be made available for unlicensed use, while putting the Radio Astronomy and Wireless Medical Telemetry Systems in the database service where they can be protected.
14. IEEE 802 recognizes the need to preserve the integrity of Ch 37 for radio astronomy, and suggests allowing WSDs to operate on Ch 37 subject to TV band database enforced exclusions in geographic regions where radio astronomy would be adversely affected by the operation of WSDs.

### **IEEE 802 STRONGLY RECOMMENDS AN ANALYTICALLY RIGOROUS ENGINEERING APPROACH TO DEFINING GUARD BAND SIZE**

15. IEEE 802 encourages the Commission to carefully review the interference issues with respect to all protected services.
16. We strongly recommend an analytically rigorous engineering approach to defining guard band size.

### **THE COMMISSION SHOULD MAKE AVAILABLE THE TWO DESIGNATED MICROPHONE CHANNELS FOR UNLICENSED USE**

17. As proposed in Paragraph 224, the Part 15 wireless microphones with a waiver may be re-located to the guard bands or duplex gaps. In that case the two designated channels around Channel 37 can be made available for unlicensed use.
18. Regardless of whether the wireless microphones with waivers are relocated to guard bands

and duplex gaps, these channels need to be put in the database service such that Part 15 WSDs can make use of this spectrum.

**WE AGREE THAT SPECTRUM SHOULD NOT REMAIN UNUSED IF THERE ARE  
RADIO TECHNOLOGIES THAT CAN MAKE OPPORTUNISTIC USE OF THE  
SPECTRUM**

19. IEEE 802 supports FCC' s goal to enable more efficient use of spectrum in numerous innovative ways as suggested in Paragraph 2 of the NPRM.
20. IEEE 802 agrees with the 'Use it or Share it' model as indicated in Paragraph 405. IEEE 802 believes that spectrum should not remain unused if there are radio technologies that can make opportunistic use of the spectrum. Licensed use should emphasize interference protection rather than exclusive use.
21. However, IEEE 802 is concerned about the 'Use it or Lease it' model as proposed in Paragraph 404 as this would run counter to the objective to providing low cost devices as noted in Paragraph 228 and would further restrict the ability to provide services in rural and remote areas.

**CONCLUSION**

22. IEEE 802 applauds the Commission's working in finding a balanced approach to spectrum allocation which will create new opportunities to expand licensed and unlicensed services for the benefit of consumers and businesses.
23. IEEE 802 believes that unlicensed use of TVWS spectrum continues to offer opportunities for networks based on TV Band Devices to provide valuable services and new economic opportunities for the consumers and business.

Respectfully submitted,

/s/

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